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### Policy

The U.S. Navy Medical News Letter is basically an official Medical Department publication inviting the attention of officers of the Medical Department of the Regular Navy and Naval Reserve to timely up-to-date items of official and professional interest relative to medicine, dentistry, and allied sciences. The amount of information used is only that necessary to inform adequately officers of the Medical Department of the existence and source of such information. The items used are neither intended to be nor susceptible to use by any officer as a substitute for any item or article in its original form. All readers of the News Letter are urged to obtain the original of those items of particular interest to the individual.

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### Notice

Due to the critical shortage of medical officers, the Chief, Bureau of Medicine and Surgery, has recommended, and the Chief of Naval Personnel has concurred, that Reserve medical officers now on active duty who desire to submit requests for extension of their active duty for a period of three months or more will be given favorable consideration.

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### Opportunity for Residency Training in the Navy

Applications for residency training are requested from Regular officers and those Reserve officers who have completed their obligated service under the Universal Military Training and Service Act, as amended.

Training is available for Regular officers in all of the major medical specialties. It is available for Reserve officers in Pathology, Orthopedic Surgery, Obstetrics and Gynecology, Pediatrics and Urology. There are a few billets available for training in civilian hospitals in the specialties of Anesthesiology, Otolaryngology, Dermatology and Syphilology.

Residency training may be started immediately on completion of internship. It is now the desire of the Bureau of Medicine and Surgery to continue a resident in training without interruption until he has completed the formal training requirements leading to certification by an American Specialty Board. The procedure will be strictly adhered to in every case where the demands of the service permit and providing the trainee shows satisfactory progress.

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### Diagnosis of Pernicious Anemia

Pernicious anemia, as it is encountered in present-day practice, rarely conforms to the descriptions found in textbooks. As a result, the diagnosis is sometimes difficult to establish. There is no chronic disease which is more easily or more satisfactorily treated, but early recognition and adequate therapy are essential if the patient is to be protected against permanent crippling disability.

Pernicious anemia is no longer pernicious nor is it primarily a blood disorder. The manifestations of the disease are attributable to deficiency of vitamin B<sub>12</sub>, the result of inadequate absorption of the vitamin from the gastrointestinal tract. The basic lesion is found in the stomach, which has undergone an atrophic change and fails to secrete hydrochloric acid and the gastric enzymes. "Intrinsic factor," a component of normal gastric secretion, is not produced by the stomach of the patient with pernicious anemia. As yet unidentified, "intrinsic factor" is required for the absorption of optimal amounts of vitamin B<sub>12</sub>. In its absence, vitamin B<sub>12</sub> is inadequately absorbed even though ingested in usual amounts.

Vitamin B<sub>12</sub> deficiency leads to a generalized physiologic disturbance, but three organ systems are predominantly involved: (1) the alimentary canal is affected. (2) Bone marrow function is disturbed. (3) The nervous system is involved in an important way.

There is no regular relationship between the times of appearance of the alimentary, hematologic, and neurologic manifestations. Some patients develop soreness of the tongue long before the blood becomes abnormal. Others have symptoms of anemia in the absence of alimentary or neural complaints. Still other patients develop the neurologic disorder at a time when the blood and bone marrow are entirely normal. Any combination of these manifestations may occur.

Administration of vitamin B<sub>12</sub>, which is now known to be the active component of liver extract, does not restore the function of the stomach. The absorption defect persists, and, therefore, it is necessary to continue treatment throughout the life of the patient. As a result of adequate treatment, most patients regain normal health, the blood and bone marrow are normal, alimentary symptoms are absent, and neurologic manifestations do not develop.

During remission, the diagnosis of pernicious anemia is virtually impossible. If therapy is withheld, relapse will occur, but it is not unusual for remission to be maintained for a year or two after all treatment has been discontinued.

The absorption defect in pernicious anemia is readily circumvented by parenteral administration of the vitamin. Amazingly small amounts suffice. An injection of 50 mcg. of vitamin B<sub>12</sub>, given once each six weeks, provides adequate maintenance therapy.

The general availability and injudicious use of liver preparations, vitamin B<sub>12</sub>, and folic acid have led to a high incidence of incorrect diagnoses and inadequate treatment in recent years.

The early symptoms of pernicious anemia include fatigue, weakness, soreness of the tongue, mild gastrointestinal disturbances, and numbness and tingling of the hands and feet. A patient who develops one or the other of these symptoms is very likely to receive a multivitamin preparation without appreciation of the correct diagnosis. If the preparation contains folic acid, anemia disappears before it is recognized to be present, alimentary symptoms subside, and the patient often feels much improved. Weeks or months later, however, progressive neurologic disease will become apparent and may incapacitate the patient while the blood remains normal. At this time, the physician often does not think of pernicious anemia, but considers the diagnosis of multiple sclerosis, cord tumor, or some other neurologic disease. Because the diagnosis is not recognized, the patient may be deprived of the simple therapy which could have maintained him in excellent health.

Since the use of folic acid has become widespread, almost half of the new patients with pernicious anemia, seen at the Johns Hopkins Hospital, arrive with neurologic disease in the absence of an appreciable degree of anemia. Folic acid deficiency is extremely rare in the United States, and the indiscriminate use of this vitamin is not justified. Under no circumstances should folic acid in any form be administered to a patient whose symptoms might be those of pernicious anemia.

When a patient is found to have anemia, it is of the greatest importance to determine the cause before initiating therapy. Injection of liver extract or vitamin B<sub>12</sub>, or administration of an oral hematinic preparation containing folic acid, will lead to prompt improvement in the hemoglobin level in patients with pernicious anemia. If the diagnosis of pernicious anemia has not been established before instituting such therapy, the physician fails to recognize that life-long therapy is required. Often, therefore, the treatment is discontinued after the patient appears to recover. Relapse inevitably occurs and neurologic manifestations may appear.

One of the most valuable diagnostic tests available, in dealing with anemia, is the demonstration of response to specific therapy. Dramatic response of an anemia to the injection of vitamin B<sub>12</sub> provides convincing support for the diagnosis of pernicious anemia. This diagnostic test is of no value if "shotgun" preparations are used. It is rare that more than one specific anti-anemic substance is required in the treatment of a patient with anemia, and under no circumstance is the combination of vitamin B<sub>12</sub>, folic acid, and iron in the same preparation acceptable.

The syndrome of subacute, combined degeneration of the spinal cord should always be considered to be pernicious anemia even though the blood and marrow are normal. Failure to treat patients with this disorder leads



to irreparable damage to the nervous system. Even when improvement does not occur, further progress of the disease is arrested by adequate therapy.

No existing treatment for pernicious anemia is superior to the regular parenteral administration of vitamin B<sub>12</sub> or refined liver extract. Most preparations designed for oral use are completely inadequate. Recently, oral preparations have become available which combine vitamin B<sub>12</sub> with "intrinsic factor" in an effort to enhance the absorption of the vitamin. The amount of vitamin B<sub>12</sub> which can be absorbed from such preparations is much smaller than that which can be injected. Furthermore, prolonged studies have not yet been carried out to determine the optimal maintenance dose. Therefore, the use of such preparations is experimental and cannot be recommended for general use. (GP, Jan., 1955; C. L. Conley, M. D., Johns Hopkins University and Hospital, Baltimore, Md.)

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### The Guillain-Barré Syndrome

Prompted by the apparently increasing interest in the Guillain-Barré syndrome, the authors considered it appropriate to review 17 cases of this clinical complex observed at Grasslands Hospital.

Since 1859, when Landry made what was probably the first description of this condition, few factual data have come forth to dispel the obscurity surrounding its cause. Specific toxins, viruses, and bacteria, as well as dietary deficiencies, heavy-metal poisoning, and circulatory disturbances have been blamed. This symptom complex has been reported in association with, or subsequent to, many dissimilar entities: acute nonspecific upper respiratory infections, pneumonia, various encephalitides, measles, mumps, scarlet fever, influenza, varicella, botulism, tuberculosis, syphilis, infectious hepatitis, infectious mononucleosis, sulfonamide poisoning, diabetes mellitus, artificial-fever therapy, porphyria, diphtheria, and smallpox vaccination, and after the administration of tetanus anti-toxin. In a fair percentage of cases there is no associated or antecedent illness of any kind. A similar divergency of associated diseases was seen among the 17 patients observed by the authors.

If the cases associated with well known peripheral neuropathic entities (diphtheria, alcoholism, diabetes mellitus, lead poisoning, porphyria, and mechanical compression of nerve roots) are eliminated, most of the remainder can be classified in three ways: (1) cases that are associated with, or follow a variety of infectious disease of both viral and bacterial etiology; (2) cases that follow parenteral introduction into the body of foreign protein (immunization procedures, blood transfusion); and (3) cases in which no other antecedent or concomitant clinical phenomena are evident. In the search for a common denominator among these three groups, it is conceivable that an allergic reaction is the underlying pathogenic factor. There are



grounds for this theory, though they are admittedly shaky. In the first place the outstanding histologic change in autopsied cases is edema of the nerve roots. Favours describes it as a "hive of the central nervous system." Finally, recent experience suggests that ACTH and cortisone are of definite value in reversing the course of the illness in its early stages, just as they do in a number of allergic manifestations.

At Grasslands Hospital, the disease most frequently confused with the Guillain-Barré syndrome was acute anterior poliomyelitis, particularly the bulbospinal variety.

The prodromes of the two conditions are quite similar and are not much help in differential diagnosis except that patients with the Guillain-Barré syndrome may complain of being vaguely ill for a number of weeks before the onset of the neurologic symptoms. The type of onset is an important point. In the Guillain-Barré syndrome, the onset is usually gradual--fever, severe headache, and meningeal signs are absent though they may occur in a mild form; poliomyelitis begins more explosively, with severe headache, fever, nausea, vomiting, and stiff neck. Paresthesias are unusual in poliomyelitis. Sensory changes are an outstanding finding in infectious polyneuritis whereas they are rare in poliomyelitis; when they occur, they are minimal. The paralysis of the Guillain-Barré syndrome is symmetrical and widespread; it is slower as a rule to develop, usually taking two to six weeks. Facial diplegia is present in most cases, and the second, third, fourth, and sixth cranial nerves are often involved. In poliomyelitis the distribution is often patchy and asymmetrical, particularly in the cranial nerves; facial diplegia is uncommon, and the second, third, fourth, and sixth cranial nerves are infrequently involved; also, the paralysis develops more rapidly. The mortality in extensive bulbospinal poliomyelitis is considerably higher. Among the patients with extensive poliomyelitis, there are usually severe residual paralysis and atrophy--many are respiratory cripples for life. This is not so in infectious polyneuritis, although some degree of residual paresis may occur. The cerebrospinal-fluid findings often do not definitely establish the diagnosis; during the first week of the disease the patient may show a significant pleocytosis, but most patients do not. Pleocytosis is almost always present in the fluid of patients with poliomyelitis who become paralyzed. However, during the early phases, the spinal-fluid protein in both illnesses may be normal or only slightly elevated. During recovery or convalescence, elevated cell counts are not found in the spinal fluids in either condition. The spinal fluid protein in the Guillain-Barré syndrome soon rises, during the progressive phase, to significant levels (it may reach or exceed 2000 mg. per 100 cc.), remaining elevated for months. It is apparently not generally known that the protein may also rise after the acute stage of poliomyelitis, occasionally reaching 300 to 400 mg. per 100 cc.; however, it usually falls to normal within 6 weeks.



Although there are many differences between the two diseases, on occasion the differential diagnosis is very difficult, and the correct diagnosis may be made only after weeks of careful observation. (New England J. Med., 20 Jan., 1955; R. E. Crozier, M.D. and A. B. Ainley, M.D., Grasslands Hospital, Valhalla, N. Y.)

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### Probenecid

Probenecid (Benemid) resulted from a prolonged research effort directed toward the discovery of a safe agent that, administered orally, would physiologically inhibit the renal tubular secretion of penicillin. Introduced into clinical medicine in July 1949, the use for which it was intended has increased steadily, and new indications for the drug have been disclosed. A conservative estimate indicates that 4,000,000 patient days (15,626 patient years) of therapy have been administered. Granting that the record of side-effects following the use of any therapeutic agent is not static, and that continuing use will bring to light an increasing number of side-effects and toxic manifestations, an appraisal from time to time seems appropriate. A preliminary assessment of the toxicity of probenecid was presented in 1951 on the basis of 701 patients, and it is now possible to report on 2502 patients. The information reported in this article was derived from published articles, from the reports (unpublished) of many investigators who have communicated with the authors, and lastly, from a large series of patients treated by the authors.

Probenecid was developed for the specific purpose of inhibiting the renal tubular secretion of penicillin. The penicillemia resulting from any given dose of penicillin, regardless of the route of administration or the type of penicillin administered, is enhanced 2 to 10 times. Probenecid is used in combination with orally administered penicillin, and also in conjunction with large doses of parenterally administered penicillin, for the treatment of so-called "resistant" infections--particularly subacute bacterial endocarditis.

Originally proposed as an adjuvant to penicillin therapy, it was promptly discovered that, predicated upon previous experiences with carinamide, probenecid has a profound uricosuric effect. It seems reasonably clear that (1) probenecid inhibits the tubular reabsorption of uric acid in gouty patients and lowers elevated serum uric acid levels to normal or high normal values; (2) that the uric acid excreted into the urine by gouty persons can be tremendously increased; (3) that the turnover rate of the miscible pool of uric acid in gouty patients can be favorably influenced, and (4) that tophi can be prevented and destructive lesions in the bone actually made to heal. Probenecid has been established as an outstanding contribution to the management of chronic gout and gouty arthritis.



Probenecid administered together with p-aminosalicylic acid (PAS) results in enhancement by 15 to 50% of the plasma concentrations of PAS. Although this increase in plasma concentrations of PAS is not of the same magnitude as that observed with penicillin, it is, nevertheless, reflected in terms of increased tuberculostatic activity of human plasma.

By preference, probenecid is administered orally. The drug is rapidly absorbed from the gastrointestinal tract so that measurable concentrations are observed in the plasma within a half-hour after the administration of as little as 0.5 gm.

Although probenecid is used primarily by the oral route, the sodium salt can be administered intravenously. There are few indications for administering the drug intravenously. During certain renal function investigations, it has been found that 2, and even 4, gm. of probenecid could be safely administered intravenously.

A review of 2502 patients indicates that probenecid in a daily dose of 2 gm. can be safely administered for periods up to four years. The most common manifestation of intolerance is gastrointestinal symptoms, occurring in 3.1% of patients studied. Typical hypersensitivity reactions have been observed in 8 patients and skin rashes have been observed in 34 patients. The rashes observed have not always been attributed with certainty to probenecid, and the likelihood exists that some of them were due to concurrently administered penicillin.

A reasonable presumption is that probenecid, because of its profound uricosuric action, may in some cases act as a chemical stress upon the biochemical equilibrium of the gouty patient and precipitate an acute gouty attack. Tentatively, the statement is made that approximately 10% of gouty patients treated will suffer an acute attack of gout shortly after the institution of probenecid therapy, however, continued probenecid therapy appears to lessen the frequency and severity of acute gouty attacks. Apart from the influence on gouty attacks, probenecid-treated patients almost universally attest to a sense of well-being. The laying down of new tophi can be prevented, and uric acid deposits already established may be diminished in size or actually disappear.

To date, no deaths are attributable to probenecid therapy. There is no evidence of aggravation of preexistent renal damage; no hepatic toxicity has been observed, and there has been no reported case of suppression of the hemopoietic system. A total of 175 side-effects has been noted in the group of 2502 patients, representing an over-all percentage of 7.94%. Thirty-five of these reported side-effects were related to the urinary tract, where the question may be raised whether the manifestations are truly side-effects and evidences of toxicity or are, in fact, evidences of the uricosuric activity of probenecid. Probenecid is a drug of low toxicity, an outstanding contribution to the therapy of chronic gout and gouty arthritis and a valuable adjunct to penicillin therapy, orally or parenterally administered. (Arch. Int. Med., Jan., 1955; W. P. Boger, M. D. and S. C. Strickland, M. D., Norristown, Pa.)



### Acute Transient Middle Lobe Disease

The special significance of atelectasis of the middle lobe was first pointed out in 1946 by Zdansky and Brock, independently. Zdansky described two cases of middle lobe atelectasis in adults caused by compression of the middle lobe bronchus by a calcified lymph node. He noted that in children enlargement of a lymph node often causes compression of a major bronchus leading to atelectasis of the entire lobe without any predilection for any one bronchus and lobe. In adults, on the other hand, atelectasis of an entire lobe will occur more frequently in the middle lobe. In the other lobes, only the smaller bronchi will be compressed leading to segmental atelectasis.

The first person to coin the term "middle lobe syndrome" was E. Graham who, in 1947, reported 12 cases of nontuberculous adults having compression of the middle lobe bronchus by enlarged lymph nodes. All were characterized clinically by hemoptysis and recurrent episodes of pulmonary infection. Atelectasis, fibrosis, and bronchiectasis were the pathologic findings. The enlarged, compressing, lymph nodes showed changes of a chronic nonspecific lymphadenitis. The necessity of investigating all the lobes in each patient was stressed.

Bronchial occlusion leading to atelectasis of the corresponding lobe or segment may occur either by pressure from without (e. g., by an enlarged lymph node or tumor), or by narrowing and obstruction from within (e. g., by edema or fibrous stenosis of the wall or by a plug of mucus occluding the lumen).

A peculiar positioning of a bronchus may make it especially vulnerable to any of these causes of occlusion. Such is the case with the right middle lobe bronchus. It arises from the main stem bronchus at an acute angle and runs in close approximation with the anterior surface of the right lower lobe bronchus for a distance of about 0.75 cm. before curving away from it in an anterior direction. This makes it more vulnerable to compression by the surrounding lymph nodes or to occlusion by a narrowing process within it. Moreover, this positioning may hinder adequate drainage from the inflamed lobe, leading to greater frequency of recurrence and chronicity of pneumonitis in this lobe. This greater frequency of occlusion of the right middle lobe bronchus as compared with the other major bronchi does not occur in children, because in a child all the major bronchi are of a narrow caliber and are easily compressible. Hence, lobar atelectasis in children occurs without any predilection for any one lobe. Such a situation exists also in adults in the case of the smaller secondary or tertiary bronchi; hence, segmental atelectasis in adults occurs with equal frequency in any lobe. It is only in the case of the major bronchi in the adult that a greater frequency of occlusion of the middle lobe bronchus occurs as compared with the other major bronchi.



The name "middle lobe syndrome" is suggested as an all inclusive term for all cases of middle lobe atelectasis regardless of etiology, and the name "middle lobe disease" for all cases of atelectasis and pneumonitis which are not caused by active tuberculosis or by neoplasm. While, conceivably, some cases might have been caused originally by tuberculous lymphadenitis in childhood, the resultant pneumonitis later in life is non-specific and not distinguishable from pneumonitis caused by non-tuberculous lymph nodes or by mucus plugs and poor drainage. Middle lobe disease can thus be defined as characterized by atelectasis and pneumonitis of the middle lobe which may be either transient or chronic with or without accompanying bronchiectasis and caused by poor drainage from the middle lobe due to the peculiar positioning of the middle lobe bronchus.

Middle lobe disease should be differentiated from atelectasis caused by active tuberculous lymphadenitis or bronchitis, and from that caused by bronchogenic carcinoma. The latter should be considered first in every case of atelectasis occurring in a middle-aged or elderly individual. However, in middle lobe atelectasis, carcinoma is a less likely finding. Brock found that, out of 1200 cases of bronchogenic carcinoma, only 8 were in the middle lobe. Perhaps this is only a relative infrequency due to the fact that atelectasis from various other causes is so much more frequent in the middle lobe.

Once the diagnosis of middle lobe disease has been established, a thorough search for involvement in any of the other lobes should be made. Bronchography should be done whenever feasible to rule out bronchiectasis in any other lobe, especially in cases of chronic pneumonitis considered for surgery. Bronchoscopy should be done in every case. (Dis. Chest, Jan., 1955; E. Rosenman, M.D., Los Angeles, Calif.)

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#### Treatment of Cardiovascular Disease with Anticoagulants

The use of anticoagulants is restricted currently because adequate prothrombin time determinations are absolutely essential to their use. Such determinations do not require elaborate laboratory equipment, but they do require a very carefully trained, conscientious technician.

These drugs are used increasingly in exacerbations of coronary insufficiency. This occurs (1) when angina develops suddenly and rather severely; (2) where a pre-existing stable angina increases suddenly in severity or frequency; (3) when angina of effort suddenly becomes complicated by nocturnal angina, or status anginosus occurring with little or no effort; (4) when the progress of coronary disease indicates an acute exacerbation. It is well known that many--probably most-- cases of



myocardial infarction are preceded for a few days or weeks by so-called premonitory symptoms. These symptoms are an exacerbation of the symptoms of coronary disease without an outright infarction.

Indications for using these drugs in rheumatic heart disease, with auricular fibrillation and emboli, are clear. The author doubts that they are indicated under these circumstances unless there is actual evidence that thrombo-embolism has occurred, although some physicians contend they are desirable whenever failure and auricular fibrillation are present, particularly in older patients.

Venous thrombosis of various kinds--thrombophlebitis, phlebothrombosis, migrating thrombophlebitis--is a clear-cut indication for use, as are arterial embolism or thrombosis and pulmonary embolism from any cause whatever.

The first and most important contraindication to anticoagulant therapy, the one that must be emphasized repeatedly, is lack of a laboratory to provide reliable prothrombin time determinations. If reliable measuring equipment is not available, Dicumarol or similar anticoagulants should not be used.

The second contraindication for use is an erratic or uncooperative patient. Some patients vacillate; one day they feel they don't need the pills, and another day they take more than the prescribed amount because of feeling unwell. With such a patient, the anticoagulants are so dangerous they are not useful. Another type of patient is not erratic in his cooperation but in his response to the drug, for reasons which are completely unknown. Often it is impossible to know whether a patient is unduly erratic in his response because of metabolic, biochemical and physiologic reasons, or whether he is erratic in using the drug.

Dicumarol is a potent, useful adjunct in the treatment of thrombo-embolic disease. The general fields of its usefulness are well defined. More work is necessary to establish its role in mild diseases and in preventing emboli. The therapy is demanding of the physician from a technical standpoint and a laboratory which provides reliable prothrombin time determinations is essential. Dicumarol can be used only with intelligent cooperative patients. (Postgrad, Med., Jan., 1955; W.R. Adams, University of Chicago School of Medicine, Chicago, Ill.)

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### Ultraviolet Microscopy of Renal Vascular Diseases

In recent years, pathologists have applied many new tools to the analysis of tissue changes in kidney disease. Histochemistry, microspectrography, phase contrast microscopy, ultraviolet microscopy, and electron microscopy have yielded new evidence to support or refute traditional ideas of the morphologic bases of various kidney lesions. Another



new technic, which permits color photomicrography in ultraviolet light, has recently become available. The Polaroid color-translating ultraviolet microscope allows the operator to choose any three wave lengths in the range of 2330 to 4000 Angstrom units, and to obtain accurately focused photomicrographs on 35 mm. film of tissues and other material, with each of the three wave lengths translated into a different color: blue, green, and red. In the machine are a rapid film processor and a projector which superimposes the three images into a single colored picture.

To investigate whether stromal tissues had any peculiarities of ultraviolet absorption, an inquiry into the properties of normal and abnormal human and animal kidney tissues was undertaken. Kidney was chosen because it proved easy to identify its histologic components with the optical telescope and green-black contrasting appearances of unstained tissue used in the Polaroid instrument which has green light for preliminary visual survey of the slide.

A surprising variation in the ultraviolet absorptions of glomeruli from different human kidney diseases was observed and is being reported elsewhere. The absorption behavior was uniform between different slides, different kidneys, and different persons with the same pathologic condition. In the case of persons with diabetes mellitus, the changes of glomerular stroma were considered distinctive enough to be diagnosed by ultraviolet photomicrography in the presence or absence of identifiable pathologic alterations by ordinary pathologic criteria. The ultraviolet absorptive properties of arteries and arterioles in the same kidneys are considered in this article.

Studies of tissue pathology using ultraviolet light over a considerable range of wave lengths are new. Many findings have been and probably will be unexpected, such as the distinctive differences observed in glomerular stromal absorptions in various clinically and pathologically identifiable glomerular diseases. Aside from concluding from the study of different blocks of kidney tissues from various patients that the observations were not due to localized peculiarities of certain areas of tissue, and were uniform for individual disease entities, no complete explanation was available to explain the ultraviolet absorptive behavior of diseased glomeruli. Biochemical observations of the ultraviolet absorption spectra of collagen, during successive purification procedures which removed ground substances, have shown similar changes in the same wavelength range as investigated in the present study. This suggests that mixtures of partly denatured glomerular stromal proteins surrounded by abnormal amounts of normal or abnormal ground substances could be responsible for the observations.

Arteries and arterioles of diseased kidneys studied have proved less labile than glomeruli in demonstrating abnormal ultraviolet absorptions. In fact, short of necrosis of their walls, no significant alterations from normal ultraviolet properties were observed in various important kidney



diseases. Despite definite morphologic changes in arterial walls in these conditions, ultraviolet absorptions were considered within normal limits.

Possible explanations suggested for the negative findings are (1) that the material was chosen particularly to study glomeruli and did not illustrate the most outspoken arterial and arteriolar lesions. However, there were striking vascular changes, at least in the diabetic amyloidosis, and periarteritis nodosa material. (2) Despite histologic changes, the preponderance of normal smooth muscle and collagen still unaltered in most of the blood vessel walls perhaps obscured abnormalities in ultraviolet absorption. In glomeruli, a significantly greater proportion of stroma was likely damaged, with resulting visibly altered ultraviolet properties.

The positive findings of greatly increased ultraviolet absorption, up to eight times normal, in the vascular necroses of malignant arteriolar nephrosclerosis and periarteritis nodosa were unexpected, because no such increased density is found with visible light. The normal ultraviolet absorptions of adjacent kidney tissues testified that this change was not attributable to increased thickness of sections or other technical factors. Apparently, protein denaturation and coagulation with precipitation of colloids may be partly responsible. Whether some inorganic materials like calcium or iron are also attached to protein and add to the ultraviolet opacity remains to be determined.

Further studies with ultraviolet photomicrography of renal vascular diseases would appear promising. It would be of interest to investigate the effects of enzymes, hydrolyzing agents, and salts upon the ultraviolet absorptive properties of vessel walls. Because the slides are examined unstained, later histochemical studies of the identical sections are feasible. (Circulation, Jan., 1955; S.C. Sommers, M.D., R. Crozier, M.A., and S. Warren, M.D., Cancer Research Institute, New England Deaconess Hospital, Boston, Mass.)

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#### An Improved Method for Skin Graft Coverage of Extensive Burns

The ultimate objective in the treatment of burns is the earliest possible healing with the minimum of residual deformity. This article presents an improved method of skin grafting extensive third degree burns.

The authors used the Reese dermatome with the Dermatape backing as the mechanism for obtaining the skin grafts. By this means the normal skin tension is maintained, insuring maximal use of all donor skin. The use of the Dermatape backing, which is firmly adherent to the donor skin, facilitates the handling of the stamp grafts. The Dermatape backing not only prevents the grafts from rolling or curling, but maintains the split

skin flat with normal skin tension, thus expediting the procedure. It is believed that the method of cutting the stamp, the size and pattern of the stamps, are important considerations in the maximal utilization of available skin.

Each Reese Dermatape furnishes approximately thirty-two square inches of split skin, an area four by eight inches. The Dermatape, to which the skin graft is adherent, is cut into strips one inch wide, thus creating eight strips in a complete drum of split skin. Each strip is then cut into squares one inch on a side, which in turn is cut in half diagonally producing a triangular stamp. Pinking scissors are used in cutting these stamps. This type of scissor is used in order to create a regularly serrated edge on the edge of the individual triangular stamp; this increases the peripheral length over 25%. The effect of these serrations not only increases the peripheral length, but eliminates to a large degree the straight line contracted scars which often occur between the grafts. The serrated edge offers the effect of a multiple Z-plasty. When these stamps are placed on the recipient site about one-quarter of an inch apart, the surface coverage is increased 100%. In a 4 by 8 inch sheet graft, the total peripheral edge is 24 inches, however, utilizing the stamps in the fashion described above increases the peripheral edge to 256 inches.

When the grafts are placed at one-quarter inch intervals, the final result is smooth and uniform with a minimum of scarring. If the donor site is not adequate for coverage of the burn area, the grafts should not be scattered widely, but should be placed at the standard interval for complete optimum healing. After the donor site has healed, it may be reused if necessary to complete the grafting procedure. The authors believe that the use of a thin graft is indicated to assure early healing of the donor site and subsequent reuse of the donor site. According to their experience in small children, the average thickness of skin used is .008 inches and, in adults, it is .012 inches. However, there can be no hard and fast rule concerning the determination of the optimum thickness of the graft because it varies with age, sex, and race of the patient.

Another advantage of using this procedure is that the application of the stamp graft can be done quickly without prolonged anesthesia, a consideration of great importance in the individual whose general condition is poor. The policy of the writers is to limit the total anesthetic time in patients with severe burns to a maximum of one hour, which is usually enough time to cut and apply four drums of split skin. The anticipated "take" of "stamp grafts" approaches 100%, whereas the "take" in a "sheet graft" in a similar area may be variable and often disappointing.

The application of the grafts to the recipient area is rapid and simple because no sutures are required to fix them in position. After they are placed on the granulations, the entire area is covered with a fine layer of wrung-out vaseline gauze. Then several thicknesses of saline-soaked



gauze pads are molded over the surface. These dressings are then fixed into position by a circular dressing of kerlix gauze or pressure roll for purposes of gentle compression and increased bulk. The outer dressing consists of an elastic type bandage to stabilize the underlying dressings.

In spite of the numerous procedures which have been described for grafting burns, the authors believe that the present day problem is more pressing than the treatment advocated a few years ago. Primarily, the present problem is different in that the survival rate of major burns is higher, consequently, there are many situations requiring skin grafts of the burned areas with a relative scarcity of donor site skin. It is for this reason that they believe the technique described is worth consideration to obtain maximum utilization of a minimal donor site. (J. Indiana M.A., Jan., 1955; J.M. Tondra, M.D., H.M. Trusler, M.D., and T.B. Bauer, M.D., Indianapolis, Ind.)

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#### Benign Ulcers of the Greater Curvature of the Stomach

Benign ulceration along the greater curvature of the pars media of the stomach is uncommon. Levin and associates collected from the literature 20 cases of histologically proven benign ulcers of the greater curvature and added one case of their own in 1949. Griffin found 32 cases of proven benign ulceration along the greater curvature in the literature to 1954, and added three cases, two of which were in the antrum and one in the pars media of the stomach. Danstrom, Lowry, and Colvert recently reported five cases, all verified by microscopic study. This makes a total of 40 cases of benign, histologically proven gastric ulcer along the greater curvature, exclusive of autopsy studies, which have been reported.

Two patients with benign ulceration along the greater curvature of the pars media of the stomach were recently observed by the authors. Because of the uncommon occurrence of such lesions, and because of the problem as to whether treatment of these lesions should be medical or surgical, the cases were reported.

Each of these two patients had benign ulceration along the greater curvature of the pars media of the stomach, and each had multiple gastric ulcers, one having two and the other four. In each case, the multiplicity of the ulcers was discovered only at operation and their benign nature subsequently was established by histologic study. Both patients had been advised to undergo surgery because of indications of possible malignancy on roentgenographic and other clinical examinations. Gastroscopic examinations were not performed because the authors believed that, on the basis of other evidence, surgery was warranted regardless of possible gastroscopic findings.

The authors have previously shown that malignant transformation of benign gastric ulcers does occur but that such transformation is rare. The problem of gastric ulcers is not whether a specific ulcer will become malignant, but whether it is malignant now--that is, the differential diagnosis of benign and malignant ulcers. For typical benign ulcers along the lesser curvature, they believe that a trial of adequate medical treatment with a careful follow-up is indicated.

Many writers advocate surgical treatment for every lesion of the greater curvature of the stomach because of the high incidence of malignancy. Bockus stated that a benign ulcer niche rarely projects from that region in the usual roentgenograms, and he advocated considering and treating all such lesions as malignant. Kennedy and Beck stated that, only after histologic examination of the resected lesion is it possible to determine diagnostically that ulceration of the greater curvature of the stomach is benign.

The possibility of gastric malignancy of the greater curvature cannot be excluded or confirmed by roentgenographic examination, by gastroscopic examination, or even by inspection of the stomach at operation. Several cases were observed in which frozen sections at the time of operation showed no evidence of neoplasm, but permanent sections later disclosed the carcinoma. Consequently, if any findings from clinical, roentgenographic, or gastroscopic examination are suggestive of neoplasm, surgical treatment should be advised. The high incidence of carcinoma along the greater curvature necessitates that all such lesions be regarded and treated as malignant. (Cleveland Clin. Quart., Jan., 1955; C.H. Brown, M.D. and A.D. Intriere, M.D., Cleveland Clinic, Cleveland, O.)

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#### Tracheo-Esophageal Fistula Due to Blast Injury

Fistulous communications between the trachea and esophagus are not common lesions, but neither are they rare. These fistulae are of two principal types: those of congenital origin, and those which are acquired. The latter are further subdivided into the malignant and the non-malignant varieties. Malignancy has been established as the most common cause of acquired fistulae.

In a consideration of lesions of this type not due to malignancy, Coleman and Bunch reviewed 75 cases and found that infection was their most common etiologic factor. In the majority of recorded cases, the trauma has usually been some form of direct violence, including chemical injuries, perforation by ingested foreign bodies, penetrating wounds, or the result of a false passage created during diagnostic or therapeutic endoscopy.



In a final extremely small group of patients, an acquired benign tracheo-esophageal fistula has resulted from indirect violence or non-penetrating trauma. Fistulae arising on this basis are exceptionally rare and no case has hitherto been recorded in the literature in which such a lesion was caused by a blast injury. Because of its unique etiology, a case is reported in this article.

A careful review of the literature reveals this to be the eighth recorded case of tracheo-esophageal fistula due to non-penetrating trauma. It is of interest that all of the patients have been young men, ranging in age from 19 to 31 years. Five of the eight cases were caused by motor vehicle accidents, and three of these five reports state specifically that the patient was thrown against the steering wheel. No details were given in the other two cases.

From 10 to 19 weeks elapsed between the time of injury and surgical repair, with the exception of one patient who was operated upon four and one-half weeks after the injury. The symptoms are usually severe, though rarely they may be minimal, and a patient has been reported in whom the fistula was present for 5 years before medical aid was sought.

Almost immediately after swallowing liquids, the patient complains of a strangling sensation and develops a severe paroxysm of coughing productive of the ingested fluid. Early after the injury, eating of solid foods will usually produce the same reaction. However, if the fistula is not too large, the patient can swallow solids by strategically leaning in a position that will allow the solid food to pass by the fistulous tract. This usually does not become possible until several days or even weeks after the injury. The clinical diagnosis should be suspected from the history and symptom complex and it can be established readily by outlining the fistula with lipiodol which is best instilled into the proximal esophagus through a catheter passed just distal to the pyriform sinus. By this means one may be sure that lipiodol which appears in the tracheo-bronchial tree has not been aspirated. The fistula also may be visualized at bronchoscopy and esophagoscopy, although mucosal folds may in part obscure the fistula, causing the endoscopist to underestimate its extent. Such a situation prevailed in the case reported in this article.

It has been stated that, occasionally, a tracheo-esophageal fistula will heal with conservative treatment. If the opening is a few millimeters in diameter, as may result from perforation during endoscopy, intraluminal cauterization with silver nitrate or sodium hydroxide may effect a cure. If the fistula is larger, the tract usually becomes lined with epithelium. Once the fistula is epithelialized, spontaneous closure will not occur and if the opening is more than a few millimeters wide, cauterization will almost certainly be ineffective.

A program of "esophageal rest" has been recommended. If the fistula is small, a Levin tube should be used, while if it is large, either a gastrotomy or jejunostomy has been advocated; the former, if the tracheo-esophageal

fistula is above the level of the aortic arch, the latter if it is below this level. Direct operative repair is usually the procedure of choice. (Ann. Surg., Jan., 1955; H. Volk, LT MC USNR; C. F. Storey, CAPT MC USN, and A. G. Marrangoni, LT MC USNR, U. S. N. H., Portsmouth, Va.)

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### Aneurysmal Bone Cysts

In a comprehensive review of the records of more than 2000 primary bone lesions encountered at operation at the Mayo Clinic in the period 1905-1952, 26 aneurysmal bone cysts were found.

The specific term "aneurysmal bone cyst" did not appear in the literature until 1942, when Jaffe and Lichtenstein stated for the first time that it was probably a distinct entity and described the findings in two cases. In many articles prior to this, especially those concerning giant-cell tumors and their "variants," more or less complete descriptions of the lesion are encountered under a variety of names. Ewing, in 1940, employed the term "aneurysmal giant-cell tumor" for the condition, which he considered to be a benign variant of a giant-cell tumor taking the gross form of a bone aneurysm.

Although the term "aneurysmal bone cyst" was coined in 1942, the literature of the succeeding eight years contains no single comprehensive article on this subject.

The age distribution of the 26 patients in this series was: ages 5 to 9 years, five cases; 10 to 14, six cases; 15 to 19, seven cases; 20 to 24, four cases; 25 to 29, two cases; 35 to 39, two cases. The average age was 17.2 years, with a range from 5 to 37. Eighteen patients were less than 20 years old. This age distribution is similar to that of the previously reported cases. Females predominated in a ratio of 16 to 10.

Aneurysmal bone cysts have been reported in the vertebral column, long bones of the extremities, clavicle, ribs, occipital bone, metacarpals, carpals, metatarsals, tarsals, sacrum, innominate bone, and scapula. As yet they have not been reported in the remaining bones of the calvarium, the mandible, or the facial bones.

The most frequent clinical complaints in the series were pain, swelling, limitation of motion, and tenderness. Twenty-three patients complained of pain, 23 of swelling, 11 of limitation of motion, and 18 of tenderness. The pain and swelling were frequently associated. Usually the pain was not severe but was increased in intensity by exercise. The swelling developed slowly but was progressive. Limitation of motion generally resulted from encroachment on a joint.

The duration of symptoms, as reported by others and confirmed by the authors' experience, was relatively short. It varied in this series of cases from 3 weeks to 3 years with an average of approximately 6 months.



A history of local trauma was reported in cases discussed elsewhere as well as in 12 cases of the series observed by the authors. Trauma had occurred usually from a few days to one month before the onset of symptoms. In all probability, the injury merely called attention to the lesion by causing a local exacerbation of symptoms.

The aneurysmal bone cyst has a rather typical roentgenologic appearance in most instances. In about 16 cases in the series a diagnosis could have been made preoperatively with reasonable certainty. The pertinent findings include a circumscribed area of rarefaction, a soap-bubble or honeycombed appearance of the interior of the lesion, eccentric bulging of the cortex (which is usually disrupted), a peripheral, delimiting, thin shell of periosteal new bone, and, in young patients, a location in the diaphysis adjacent to the epiphyseal cartilage.

The lesions which may bear a certain resemblance to aneurysmal bone cysts, from the standpoint of the roentgenologist and the pathologist, include benign giant-cell tumor, hemangioma, fibrous dysplasia, and simple bone cyst.

Aneurysmal bone cyst is a distinct benign pathologic entity. In approximately two-thirds of the cases it exhibits a characteristic roentgenographic picture. Curettage is the treatment of choice, and at the time of the operation, the gross features of the cyst should make its recognition possible. The macroscopic and microscopic features establish the correct diagnosis. (Radiology, Jan., 1955; D.C. Dahlin, M.D., B.E. Besse, Jr., M.D., D.G. Pugh, M.D. and R.K. Ghormley, M.D., Mayo Clinic and Mayo Foundation, Rochester, Minn.)

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Aviation Medical Acceleration Laboratory  
Johnsville, Pennsylvania

With the advent of high-altitude, high-velocity, high-performance flying in military aircraft, it has become necessary to intensively engage in research in aviation medicine to determine the physiological limits imposed on the body by such aircraft.

It is generally assumed today that the engineers have made greater progress in the design of aircraft for high performance than have medical personnel in their attempts to evaluate the physiological factors which enable men to fly higher and faster. The three main objectives in studies of the human factors in high-altitude, high velocity, high-performance flying are: (a) to expand the human frontiers of aviation; (b) to set the physiological limits of the human body under stress, and hence the limits of altitude, velocity, and acceleration beyond which certain aspects of flying and certain maneuvers cannot be engaged in without serious damage to the personnel

involved; and (c) to indicate for the engineers certain aspects of aircraft design in order to increase the chances of survival, or decrease the fatigue of flying, or decrease the hazards of anoxia or cold, or increase the probability of escape from aircraft, or increase the chance of accomplishing a successful offensive or defensive maneuver.

The Human Centrifuge at the Aviation Medical Acceleration Laboratory, Johnsville, Pennsylvania, was specifically designed and is particularly suited for research in aviation medicine having the above objectives, and simulation of high-altitude, high-velocity, high-performance aircraft can be made with this device under controlled conditions, and with appropriate instrumentation and controlled measurements of man's reactions and performance. Some of the important contributions related to the above objectives are:

1. Studies of the pilot's ability to actuate controls in high performance aircraft, or in event of emergencies such as are encountered in an uncontrolled aircraft.
2. Tolerance to acceleration stress as is encountered in high performance aircraft in flight.
3. In event of bail-out, studies on deceleration, hitting the air stream, the ram pressure of air, the opening shock of the parachute, and anoxia and frostbite.
4. Tolerance to acceleration such as may be encountered in launching of high performance aircraft from carrier deck.
5. Recovery of aircraft with high landing speeds in the limited deck space.
6. Protection of pilot, deck crew, and bridge personnel from high intensity noise and heat from superpowered jet engines.

Research in aviation medicine today requires a coordination between physiological and engineering practices with end results in the form of equipment or methods often being a compromise between physiology and engineering. It is the recognition of the medico-mechanical or bio-engineering aspects of problems in aviation medicine that has brought about successful accomplishments in this area.

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#### Change of Address

Please forward requests for change of address for the News Letter to: Commanding Officer, U.S. Naval Medical School, National Naval Medical Center, Bethesda 14, Md., giving full name, rank, corps, and old and new addresses.

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"A Letter"

The following letter is published with the approval of the Surgeon General and the author.

"On October 30, 1954, I was released from active duty with the Medical Corps of the U.S. Navy. I would like to express my thanks to your department for a relatively enjoyable and most profitable two years.

I do not in any manner or form feel that my two years were "wasted". My training in surgery was utilized to its fullest where the situation would allow. I gained valuable experience in the field of trauma while with the First Marine Division in Korea, which I could never have equalled in any residency in the United States. More important, it was one time in life that I honestly felt that I was doing as much for my fellow man as was possible.

I met some outstanding doctors in the Regular Corps. By and large most of them did everything they could to make life pleasant and interesting. I flew more than 16,000 miles and visited Honolulu, Wake, Guam, Okinawa, and Japan, not to mention Korea which could hardly be classified as an exotic land. This travel broadened my education and helps me to understand this world a little better. I must admit that my one regret was, that I did not get on board a ship during my tour. The closest being the Coronado Ferry while stationed in San Diego.

I fully intend to stay in the Reserve because I sincerely feel it is an honor and a privilege to be able to serve our country when our service is needed. I'm prejudiced, and I feel the best place to serve is with the Navy.

Once again my sincerest thanks to the Medical Corps of the Navy for a most pleasant and educational tour of duty. "

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"Honors"

Captain Waltman Walters, MC USNR, Professor of Surgery, University of Minnesota Graduate School, Rochester, and Chief Editor A.M.A. Archives of Surgery, and the Lewis-Walters "Practice of Surgery," has been named as recipient of the 1954 honor award of the Mississippi Valley Medical Society. The honor award consists of a plaque and a gold medal and is given from time to time to nonmembers of the Society "who have made distinguished contributions to clinical medicine." (Medical News, J. A.M.A., 15 Jan., 1955.)

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### Retirements

Subsequent to the easing of restrictions on voluntary retirement in 1954, 14 Regular Navy medical officers with service in excess of 20 years, but with less than 30 years, have requested retirement. Eleven of the requests have received Presidential approval and the officers concerned have been, or will be, transferred to the Retired List and released to inactive duty. The medical officers whose requests have been approved are as follows:

Captain Melvin D. Abbott  
Captain Martin V. Brown  
Captain Elmer L. Caveny  
Captain Adrian J. Delaney  
Captain Frederic W. Farrar  
Captain Fred Harbert  
Captain Freeman C. Harris  
Captain Thomas W. McDaniel  
Captain Paul Peterson  
Captain Gerald W. Smith  
Captain John J. Wells

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### Training Course in Field Medicine

A course in Field Medicine is scheduled to be conducted at U. S. Marine Corps Barracks, Camp Pendleton, California, on 15 March 1955, for the benefit of Naval Reserve male medical personnel residing in the 11th, 12th, and 13th Naval Districts.

The course is of two weeks' duration and is designed to provide specialized training in field medicine including practical instruction in medical material logistics, preventive medicine in the field, professional treatment of emergencies, and medical organization with Fleet Marine Units. In addition, the trainee will receive practical instruction of a military nature including the maintenance and use of small arms, items of individual equipment, practical march and bivouac.

Eligible personnel who desire to attend this course in a pay status should submit their request to the Commandant of their home naval district at the earliest practicable date. Bachelor Officers' Quarters will be available. Working uniform is required.

Attention is invited to the fact that attendance at this course will not, in any way, increase the reservist's vulnerability for orders to extended active duty. (ResDiv, BuMed)

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From the Note Book

1. Captain E. L. Caveny, MC USN, who was placed on the Retired List of officers of the Navy on January 1, 1955, after more than 24 years of service, has assumed the post of Chairman of the Department of Psychiatry and Neurology and Professor of Psychiatry at the University of Alabama. At the time of his retirement, Captain Caveny headed the Neuropsychiatry Branch of the Navy's Bureau of Medicine and Surgery. (TIO, BuMed)
2. Rear Admiral R. O. Wells, DC USNR, Brooklyn, N. Y.; Dr. O. M. Dresen, Dean, School of Dentistry, Marquette University, Milwaukee, Wis., and Dr. W. C. Fleming, Dean, College of Dentistry, University of California, San Francisco, Calif., have been appointed as Honorary Dental Consultants to the Chief of the Dental Division of the Bureau of Medicine and Surgery by the Assistant Secretary of the Navy (Personnel and Reserve Forces). (TIO, BuMed)
3. Current planning indicates that there will be fewer dental officers required in fiscal year 1956. It appears that those senior dental students already participating in the ensign dental program will meet the Navy's dental officer requirements. Recruiting Service Note No. 6-55 of Jan., 4, 1955, temporarily suspends recruiting of civilian applicants for appointments and active duty in the Dental Corps of the Naval Reserve. Procurement of women and priority IV dentists with more than 17 months of prior military service, as defined in Section 4(i) of the Universal Military Training and Service Act, for inactive duty, will continue. With 350 Ensigns 1955, Dental, already commissioned in the 1955 graduating class, procurement of senior dental students is suspended, except for those who by law are not required to serve on active duty because of prior military service. The ensign program is still open for students in the junior, sophomore, and freshmen classes. (TIO, BuMed)
4. The "U. S. Naval Dental Corps Casualty Treatment Training Program" exhibit was displayed at the Chicago Dental Society Meeting, Chicago, Ill., Feb., 6-9, 1955. CDR J. V. Niiranen, DC USN, monitored the exhibit. (TIO, BuMed)
5. Captain L. B. Shone, MC USN, Head of the Industrial Health Branch, Preventive Medicine Division, represented the Bureau of Medicine and Surgery at the McIntyre-Saranac Conference on Occupational Chest Diseases held under the joint sponsorship of the McIntyre Research Foundation of Toronto, Canada, and the Saranac Laboratory of Saranac Lake, N. Y., Feb., 1955. (TIO, BuMed)

6. CDR J.R. Seal, MC USN, Head of the Communicable Disease and Environmental Sanitation Branches, Preventive Medicine Section, discussed the "Prevention and Control of Streptococcal Disease in Recruit Training Stations" before a meeting of the Rheumatism Society of the District of Columbia, held in the Library of the Medical Society Building, Washington, D. C., Jan., 20, 1955. (TIO, BuMed)
7. Lauriston S. Taylor of the National Bureau of Standards has been presented the Gold Medal of the Radiological Society of North America for his leadership in the field of radiation protection on a national and international scale. This society, which is made up of scientists and practitioners in the field of radiology, gives the Gold Medal annually for outstanding accomplishments in the field of radiology. (NBS, TRP 8321)
8. The name of the official journal of the Association of Military Surgeons has been changed from the "Military Surgeon" to "Military Medicine." (Mil. Med., Jan., 1955. Editorial)
9. Cylindromata occurring on the head in such numbers as to cover the scalp more or less completely are commonly called turban tumors. Individual tumors vary in size from a few mm. to 4 or 5 cm. in diameter and may be grouped like bunches of tomatoes. The tumors grow slowly and are benign. (Brit. J. Dermat., Dec., 1954; C.D. Evans)
10. It is as wrong for a surgeon to undertake a difficult operation for which he has not been trained as it is for a man to run a sports car through a football crowd before he has passed his driving test. It is as criminal for a surgeon to practice and publish a new operation without complete study as it is for a manufacturer to put a dangerous drug on the market without previous laboratory tests. (B.M.A., 18 Dec., 1954; Sir Heneage Ogilvie)
11. The author describes a method, which he considers original, of reconstruction of a partially or totally destroyed thumb and its metacarpal bone. He presents the rationale of his technic for "pollicization" of the fourth finger. (J. Internat. Coll. Surgeons, Dec., 1954; R. Letac, M.D., Dakar, B. W. A.)
12. This article describes several tissue-culture methods for studying bone-cell growth and differentiation, and presents an application of these techniques in determining the viability of cells after storage by freezing. (J. Bone & Joint Surg., Dec., 1954; R.D. Ray, M.D., R. Mosiman, M.D., J. Schmidt, M.S.)
13. The important assets in the successful treatment of meningitis are sense and simplicity in the mode of management. (Ann. Int. Med., Dec., 1954; A.L. Hoyne, M.D.)



14. The authors have attempted to investigate experimentally the major ingredients of the cigarette as possible carcinogenic agents of lung tumors. The smoke of cigarette paper has been studied and the results are reported. The results indicate that cigarette paper has little or no effect on the generation of lung tumors in albino mice. (Science, Dec., 1954; J.M. Essenberg)

15. The conservative nonoperative treatment of lumbar disk lesions is discussed in Postgrad. Med., Dec., 1954; J.W. White, M.D.

16. The motor car has killed more people in 50 years than all our wars combined. When the motorcar stops suddenly, the occupants continue in motion and are killed by blows from the car interior or by outside objects. The solution is simply to keep the occupants in their seats. The universal use of the seat belt will save thousands now doomed to die. (Surgery, Dec., 1954; H. E. Campbell, M.D.)

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#### Board Certifications

##### American Board of Anesthesiology

LT Warren H. Ash (MC) USNR (Inactive)

##### American Board of Internal Medicine

LCDR Hyman Alexander (MC) USNR (Inactive)

LT Robert H. Areson (MC) USNR (Inactive)

LT Joseph A. Bailey (MC) USNR (Inactive)

LTJG Ivan L. Bennett, Jr. (MC) USNR (Inactive)

LT Frank P. Brooks (MC) USNR (Inactive)

LT Samuel W. Budd, Jr. (MC) USNR (Inactive)

LTJG Edmund J. Callahan III (MC) USNR (Inactive)

LTJG Robert S. Gordon (MC) USNR (Inactive)

LTJG Marshall J. Hanley (MC) USNR (Inactive)

LT Eugene A. Hildreth, Jr. (MC) USNR (Inactive)

LTJG James G. Hilton (MC) USNR (Inactive)

CDR Elmer E. Hinton (MC) USNR (Inactive)

LT Charles F. Kane (MC) USNR (Inactive)

LTJG Morris Klatzko (MC) USNR (Inactive)

LT Henry J. Koch, Jr. (MC) USNR (Inactive)

LT Howard J. Lockward (MC) USNR (Inactive)

LT Edwin D. Longaker (MC) USNR (Inactive)

LTJG Edward H. McGehee (MC) USNR (Inactive)

LTJG Robert R. Montgomery (MC) USNR (Inactive)

LT William J. Noble (MC) USNR (Inactive)

American Board of Internal Medicine (continued)

LT Herbert M. Perr (MC) USNR (Inactive)  
LTJG Luigi A. Principato (MC) USNR (Inactive)  
LT William A. Schaeffer (MC) USNR (Inactive)  
LT William B. Scharfman (MC) USNR (Inactive)  
CDR Kenneth E. Smith (MC) USNR (Inactive)  
LTJG Theodore B. Van Itallie (MC) USNR (Inactive)  
LT James P. Walsh (MC) USNR (Inactive)  
LTJG William P. Walsh (MC) USNR (Inactive)

American Board of Neuropsychiatry

LT Phillip R. Apffel (MC) USNR (Inactive)

American Board of Neurological Surgery

LCDR Emil P. Thelen (MC) USN

American Board of Obstetrics and Gynecology

LT Robert J. Staub (MC) USNR (Inactive)

American Board of Ophthalmology

LTJG Vincent O. Eareckson, Jr. (MC) USNR (Inactive)  
LT Stanley Masters (MC) USNR (Active)

American Board of Orthopedic Surgery

LT Thomas R. Miller (MC) USNR (Inactive)

American Board of Otolaryngology

LTJG Robert Z. Berry (MC) USNR (Inactive)

American Board of Pediatrics

LT Marvin P. Baecker (MC) USNR (Inactive)  
LT John A. Bishop (MC) USNR (Inactive)  
Lt Joseph M. Perret, Jr. (MC) USNR (Inactive)

American Board of Psychiatry and Neurology

LTJG Zack Russ, Jr. (MC) USNR (Inactive)  
LT Charles W. Wahl (MC) USNR (Active)  
LT James H. Wells (MC) USN

American Board of Radiology

LT John E. Aiken (MC) USNR (Inactive)  
LT Donald N. Dysart (MC) USNR (Inactive)



American Board of Surgery

LT Robert E. McAlpine (MC) USNR (Inactive)  
 LCDR Milton R. Porter (MC) USNR (Inactive)  
 CDR Ronald N. Shelley (MC) USNR (Inactive)  
 LT Robert B. White (MC) USNR (Active)  
 LT Irvan Zeavin (MC) USNR (Active)

American Board of Urology

LT Richard J. Spillane (MC) USNR (Inactive)

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Recent Research Projects

Naval Medical Research Institute, NNMC, Bethesda, Md.

1. Effect of Snail Maintenance Temperatures on Development of *Schistosoma Mansoni*. NM 005 048.02.31, 17 Aug 1954.
2. Some Further Observations on the Interaction of EDTA with the Myosin-ATP System. NM 000 018.04, Memorandum Report 54-8, 17 Aug 1954.
3. Dose Dependence and Sequential Changes in Mouse Small Intestinal Weight Induced by Ionizing Radiation. NM 006 012.04.70, 21 Sept 1954.
4. The Protective Effect of Granulocytes in Radiation Injury. Lecture and Review Series No. 54-4, 7 Oct 1954.
5. A Splash Trap. Memorandum Report 54-9, NM 000 018.07, 12 Oct 1954.
6. The Determination of Human Body Surface Area from Height and Weight. NM 004 006. 05.01, 19 Oct 1954.
7. Infectivity of *Rickettsia Tsutsugamushi* - Infected Yolk Sac Suspensions after Storage for Varying Time Intervals. NM 005 002. Report No. 10, 22 Oct 1954.
8. A Proteolytic Inhibitor with Anticoagulant Activity Separated from Human Urine and Plasma. NM 006 012.04.77, 26 Oct 1954.
9. Simple Clamp for Arterial Anastomosis. Memorandum Report 54-10. NM 000 018.07, 1 Nov 1954.
10. The Visibility of Airport Runways. NM 001 056.07.03, 15 Nov 1954.

Naval Medical Research Unit No. 3, Cairo, Egypt

1. The Herpetology of Sinai. Research Report NM 005 050.39.38.
2. Recto Sigmoid Polyps in Schistosomiasis. I. General Clinical and Pathological Considerations. NM 007 082.24.01.
3. A Regional Reconnaissance on Yellow Fever in the Anglo-Egyptian Sudan. NM 005 050.39.39.

Naval Air Development Center, Johnsville, Pa.

1. Summary Review of the Influence of Thermal Radiation on Human Skin. NM 001 090. 04.04, 10 Nov 1954.
2. Accomplishment Summary of Aviation Medical Acceleration Laboratory.

Naval Medical Field Research Laboratory, Camp Lejeune, N.C.

1. The Hemodynamic Response to Thermal Radiation, NM 006 014.04.02, December 1954.

Medical Research Laboratory, Submarine Base, New London, Conn.

1. Effects of Prolonged Exposure to 1.5% Carbon Dioxide in Air for Periods up to 91 Days on Body Weight, Carbohydrate Metabolism, and Adrenal Cortical Activity in Guinea Pigs. NM 002 015. 11.05, 12 Oct 1954.
2. Report of Tests on the Use of Dry Imitation Vinegar on Submarines. Memorandum Report No. 54-12, NM 002 015.13.01. 7 Dec 1954/

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BUMED NOTICE 6780

27 December 1954

From: Chief, Bureau of Medicine and Surgery  
To: Ships and Stations Having Medical/Dental Personnel Regularly Assigned

Subj: Protective Clothing Set, Chemical Warfare Agents FSN 6545-925-1695 (Indented) (Component of Medical Supply and Protective Clothing Set, Gas Casualty Treatment FSN 6545-924-5675)

Ref: (a) BuSandA Manual, Volume 4, paragraphs 42750 through 42773

This Notice invites attention of cognizant personnel to requirement for examination of component item Outfit, Clothing, Impregnated, Chemical Defense, 10-man Outfit, SN S37-0-92-250 contained in subject set.

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BUMED INSTRUCTION 6710.12

6 January 1955

From: Chief, Bureau of Medicine and Surgery  
To: All Ships and Stations

Subj: Defective medical and dental material; authority for disposition of



Ref: (a) Medical and Dental Materiel Bulletin, Edition No. 49  
dtd 1 Dec 1954  
(b) Art. 25-21, ManMedDept

This Instruction provides authority for the disposal of defective material listed in paragraph IV of reference (a).

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BUMED NOTICE 6150

10 January 1955

From: Chief, Bureau of Medicine and Surgery  
To: All Ships and Stations Having Medical Personnel Regularly Assigned  
  
Subj: NavMed-H-10 (Sick Call Treatment Record); preparation and retirement of  
  
Ref: (a) Chap 16, Sec XVI, ManMedDept  
(b) BuMedInst 6150.10 re DD Form 689 and NavMed-H-10

This Notice is promulgated to emphasize the importance of recording appropriate entries on NavMed-H-10 for each individual examined or treated; to further insure that each member's NavMed-H-10 is removed from the files of Sick Call Treatment Records and secured in the Health Record upon transfer; and for the prompt retirement of the form in accordance with Chapter 16, ManMedDept, and other current directives.

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BUMED NOTICE 6300

17 January 1955

From: Chief, Bureau of Medicine and Surgery  
To: All Ships and Stations Having Medical, Dental, and/or Nurse Corps Officers Regularly Assigned  
  
Subj: Cancer information for Medical, Dental, and Nurse Corps officers  
  
Encl: (1) List of Division Offices, American Cancer Society

This Notice informs addressees of material available from the American Cancer Society. The material should be of value in keeping professional personnel aware of current developments in cancer research, diagnosis, and treatment.

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BUMED INSTRUCTION 6320.9B

20 January 1955

From: Chief, Bureau of Medicine and Surgery  
To: All Ships and Stations Having Medical Personnel Regularly  
Assigned

Subj: Outpatient Report, DD Form 444

This Instruction revises instructions for the preparation and submission of subject report in order to comply with instructions recently issued by the Department of Defense which now requires the reporting of outpatient visits.

BuMed Instruction 6320.9A is canceled.

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The printing of this publication has been approved by the Director of the Bureau of the Budget, June 23, 1952.

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AVIATION MEDICINE DIVISION

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3.5 IN '55

An Aviation Safety Planning Guide for 1955 has been prepared by the U. S. Naval Aviation Safety Activity (NASA), Norfolk, Va., and distributed to all naval aviation safety officers to assist in planning and carrying out a sound aviation safety campaign for 1955. It behooves all flight surgeons attached to aviation operational units to procure and study this planning guide and to assist in the safety campaign.

Significant progress has been made in reducing the all-Navy major aircraft accident rate from 5.2 in calendar 1953 to approximately 4.6 in



1954. The target rate for 1955 is 3.5, or a ratio of 3-1/2 accidents per 10,000 flying hours.

The campaign calls for emphasis on the aeromedical aspects of accident prevention during the month of March 1955. The following is quoted from the Guide:

"This month is devoted to one of the most important phases of an accident prevention program but one which often receives the least attention. One cannot overemphasize the roles played by physiology and psychology in aircraft accidents. The fact that nearly 65% of the accidents are classed as pilot-caused should be sufficient to convince any aviator that these are fertile areas for an accident prevention program."

Let us repeat for emphasis--approximately 65% of aircraft accidents in the U.S. Navy are attributed to pilot error. A large percentage of these accidents could have been prevented if the pilot had known more about the functioning of his body and his mind. It is considered particularly significant that the emphasis should be on the pilot as a human being.

A great deal of the effort of the aviation safety campaign for March will be in the flight surgeon's field, but the aviation safety officer can do much to coordinate the effort. Lectures should be scheduled, covering such topics as (1) physical fitness; (2) the effects of fatigue, (3) alcohol, carbon monoxide, and hypoxia; (4) hyperventilation; (5) the psychology of errors; and (6) the importance of anxiety and confidence, and the importance of talking to the flight surgeon about domestic problems, minor ailments such as headaches or colds, and any problem about which the pilot is concerned.

Emphasis should be placed on the fact that any personal problem that arises will affect the pilot's ability to control an aircraft adequately, and that these problems should be brought to the flight surgeon for both evaluation and solution. The unit flight surgeon must be more than a doctor; he must act as father-confessor, a guiding light in the field of finance and romance, and, even at times, a stern taskmaster in lecturing to the wayward youngster on the evils of "wine, women, and song." No problems or ailments should be too small or too large for the pilot to discuss freely with "his" flight surgeon. In turn, the flight surgeon must make himself available for such consultation. He should never be "too busy" to take time to listen and give advice. The flight surgeon "belongs" to a unit; and by that very fact, he is "possessed," as it were, by each member of that unit.

During the month of March, efforts toward aviation safety by the flight surgeon can probably best be broken into two portions--the physiological and the psychological phases. Obviously, there is a great deal of overlap in these areas, but for the sake of planning a program, they can best be handled separately.

The first or physiological phase should cover the following broad subjects: (1) normal human physiology; (2) atmospheric physics; (3) high

altitude flight physiology; (4) the special senses as related to flight problems; (5) fatigue and effects of alcohol, drugs, and illness as related to flight efficiency; and (6) the purpose and uses of airborne personnel equipment.

Every effort should be made to schedule all aviators who have not met the requirements of OPNAV INSTRUCTION 3740.3 to be put through a low pressure chamber run. Those who have not gone through the night vision training course within the past 2 years should be scheduled for that training, and all pilots riding the ejection seat should receive a yearly lecture and film showing and should have had at least one shot on the ejection seat trainer device. It is the flight surgeon's obligation to review each pilot's health record periodically and notify the unit's commanding officer of any pilot's failure to be currently trained in aviation physiology. The flight surgeon should advise as to the fitting of oxygen masks, "G" suits, and helmets.

The second phase pertaining to the psychology of flight and, consequently, the psychological aspects of accident prevention is not an easy subject and, more than likely, will require a good deal of time in the reading of source material for preparation. Talks covering this field must necessarily cover the psychologies of learning, error, fear, and confidence. There are factors such as distractions by worries, carelessness by overconfidence, abstractiveness or daydreaming, and even the psychology of just "doping off." The question of what makes a pilot so energetic at an "O" club dance and so downright lazy when it comes to learning about his aircraft can well be a subject of discussion in the psychological phase of his training.

A number of good motion pictures are available to the flight surgeon to aid him in training the pilot. Here are a few of them:

1. "Fly High and Live" - MN-2860 (1944, B&W, 28 min.)
2. "G and You" - MN-2361 (1945, color, 44 min)
3. "Night Vision for Airmen" - MN-3462 (1945, B&W, 20 min.)
4. "High Speed, High Altitude Flight Problems--Physiological" MN-6915A (color, 24 min)
5. "Emergency Escape Using the Ejection Seat" MN-9313 New.

A number of new publications, a few of which are listed below, can give the flight surgeon a great deal of lecture material:

1. "Naval Aviation Night Vision Instructor's Manual" - NavMed P-5006
2. "Instructor's High Altitude Physiology Training Manual" - NavExos P-1260
3. "Safety and Survival Equipment for Naval Aviation" - NavAer 00-80T-52
4. "Aviation Medicine Practice" - NavPers 10839
5. "Instructors Manual for Physiological Training" - Air Force Manual 52-13



6. "Physiology of Flight" - Air Force Manual 160-30
7. "Handbook for Survival Training and Personal Equipment Personnel" - Air Force Manual 64-4

The ultimate aim for the month of March 1955 should be to provide each naval pilot with the maximum amount of aviation psycho-physiological information and training in order that he will be better able to understand himself, his equipment, and his place in the Navy--in general, to make him a healthy, well adjusted, better informed, "bright-eyed and bushy-tailed," ready-to-go pilot. Let's get the flight surgeon back to practicing "honest-to-goodness" aviation medicine on a sound, down-to-earth basis, and in this way, have the pilot and aircrewmen eagerly turn to him for help and information.

The flight surgeon can go far in the accident prevention program; much farther than most of us realize. But it takes work and effort. A good safety record doesn't just happen--its caused, yes caused, by the concerted effort of all members of a unit; and a very large segment of a unit's accident prevention responsibility belongs to the flight surgeon. If you do your job well, you will see the results; if you don't do your job, you'll see the statistics.

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#### Certification in Aviation Medicine

The first examination by the American Board of Preventive Medicine in Aviation Medicine for certification of board eligible aviation medicine specialists will be given just prior to the 26th annual meeting of the Aero Medical Association in Washington, D.C., this coming March. The examinations will be given on the 17th, 18th, and 19th of March 1955, and will consist of three distinct sections. One will be a written examination in Preventive Medicine. The second will be in Aviation Medicine and will also be a written examination. The third will be an oral interview type of examination. As of this date, no information concerning the fields to be covered in the oral examination is available; however, it is safe to assume that the test will be of an unlimited scope and will consist of both Preventive Medicine and Aviation Medicine problems.

For the written Preventive Medicine examinations, subjects will cover such fields as (1) Biostatistics, involving theory, methodology, records, and reports; (2) Epidemiology; (3) Environmental medicine; (4) Ecology, including microbiology, chemistry, biophysics, and sociology; (5) Environmental control which includes accident prevention, industrial hygiene, nutrition, and community hygiene; (6) Physiological hygiene; (7) Clinical Preventive Medicine including mental and oral health, rehabilitation, and gerontology; (8) Toxicology; and (9) Preventative psychology.

The consensus is that a thorough review of "Preventive Medicine and Hygiene," edited by Maxey, and "Preventive Medicine and Public Health," by Smillie, will prove to be a very decisive adjunct to those preparing to take this examination. Undoubtedly, all those who are anticipating this examination have some degree of familiarity with all of the subject matter listed; however, it seems reasonable that an extensive review of at least Maxey's book and perhaps Smillie's volume is highly advisable.

Another valuable reference is the "Control of Communicable Disease in Man," published by the U.S. Public Health Service. A review of some of the more important communicable diseases, such as tuberculosis, the venereal diseases, malaria, et cetera, in this volume, along with "brush up" on the clinical aspects of these diseases in any standard internal medicine textbook, will be of value to those being examined.

For those who wish to delve further into the subjects related to biometrics and reporting, it will be of help to review Bradford Hill's volume, "Principles of Medical Statistics" (Oxford, 1950). A chapter on statistical methods in "Genetics and the Races of Man," by W.C. Boyd, (Little, Brown and Company, 1950) is an excellent short review of the subject. Another valuable reference is the 10th edition of the "Physicians Handbook on Death and Birth Registrations," by the U.S. Public Health Service, 1949. This handbook can be obtained for 15¢ by writing to the Superintendent of Documents, Washington 25, D. C.

Many references are of valuable assistance to those who wish to refer to them, but none are to be considered as "musts" for review. Among them is the "Introduction to Public Health," by Mustard, 1952, which contains an interesting and highly informative chapter on the history of Preventive Medicine. Another is "How to Lie with Statistics," by Darrell Huff, and published by Norton, 1954. This volume emphasizes the misuse of statistical methods and thus conveys considerable understanding in the process. "The Eleven Blue Men," by Berton Boueche, published in 1954 by Little, Brown and Company, is a collection of true stories concerning epidemiological detective work.

The following books and periodicals are excellent, and can be of assistance to those who refer to them:

1. "Essentials of Public Health," William P. Shepard, M.D., published by Lippincott.
2. "Viral and Rickettsial Infections of Man," Thomas N. Rivers, M.D., Lippincott.
3. "Bacterial and Mycotic Infections of Man," Rene J. Dubos, M.D., Lippincott.
4. "Journal of the American Public Health Association"
5. "Public Health Reports of the Public Health Service"

The section of the examination dealing with aviation medicine should not prove to be very difficult to board eligible members of the U.S. Navy



and Air Force. Aviation medicine practice in the armed services brings one in contact with all phases of the specialty and keeps active duty flight surgeons up with the latest developments in aeronautical research development, equipment, and advanced problems. However, it behooves each candidate for the boards to seriously review the history of aviation medicine and aviation physiology, and study intensely the problems that are present in the operations of commercial airlines--problems such as ground personnel safety and working conditions, and management-labor relations. One should know all the names of important contributors to aviation medicine from the earliest investigator, who studied the effects of reduced atmospheric pressures in balloons, to the latest scientists who are presently recognized as leaders in this newest of specialties.

The examination in aviation medicine will deal in many phases of the specialty and will cover (1) basic sciences as applied to aviation medicine, particularly dealing with anatomy, physiology, biophysics, chemistry, pathology, and statistics; (2) preventive medicine as applied to aviation, including epidemiology, accident and disease prevention and control, and sanitation; (3) flight medicine, including altitude indoctrination, health supervision, escape and survival, personnel equipment, and the diagnosis, treatment and rehabilitation of aviation personnel; (4) aviation psychology, including selection and training of personnel; (5) the development and usages of flight equipment; (6) the special senses and physiological reaction to unusual flight situations; and (7) administrative problems in personnel relationship, principles, standards, legal aspects, and management in the airlines industry.

Reviews of Armstrong's "Aviation Medicine" and White and Benson's "Physics and Medicine of the Upper Atmosphere" will give the candidate a basic refresher in general aviation medicine, and a profound study of McFarland's "Human Factors in Air Transportation" will give a detailed, fundamental, and authoritative knowledge of many aviation medicine problems not evident to the military flight surgeon.

Many manuals are published by the U.S. Navy and Air Force that contain valuable information and could well be reviewed. Most of them are obtainable on a loan basis at one of the aviation physiology training units of either service. Some are listed below:

1. USN - "Instructor's High Altitude Physiology Training Manual" NavExos 1260.
2. USN - "Naval Aviation Night Vision Instructor's Manual" NavMed P-5006.
3. USN - "Safety and Survival Equipment for Naval Aviation" NavAer 00-80T-52.
4. USN - "Aviation Medicine Practice," 1955, NavPers 10839.
5. USAF - "Physiology of Flight" Air Force Manual 160-30.
6. USAF - "Your Body in Flight" Air Force Manual 51-7.

7. USAF - "Instructors Manual for Physiology Training"  
Air Force Manual 52-13.
8. USAF - "Handbook for Survival Training and Personal  
Equipment Personnel" Air Force Manual 64-4.

The listing of the many references found in this article was not done with any intention of advising candidates that all, or even the majority of these publications should be studied. The reason for the large listings is to give as wide a choice of reading as possible to the candidate. In the final analysis, the three most important volumes are:

1. "Preventive Medicine and Hygiene" by Maxey.
2. "Aviation Medicine" by Armstrong.
3. "Human Factors in Air Transportation" by McFarland.

It is hoped that all those U.S. Naval flight surgeons who have been found board eligible will, at some time in the near future take the examination in aviation medicine and become board members. Following the examinations in March, it will be possible to promulgate more specific information concerning the examinations. Those desiring added information for the immediate future concerning the examinations, dates, et cetera, should write to Ernest L. Stebbins, M.D., Secretary-Treasurer, American Board of Preventive Medicine, Inc., 615 North Wolfe Street, Baltimore 5, Md.

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#### 1955 Aero Medical Association Meeting

The 26th annual meeting of the Aero Medical Association will be held on 21-22-23 March 1955, in the Hotel Statler, Washington, D.C. Many of you are familiar with the magnificent accommodations the convention and its exhibits have at the Hotel Statler from attending meetings there in 1952 and again last year.

This year's meeting will undoubtedly surpass all previous meetings in interest and attendance. One of the big attractions will be the First Louis H. Bauer Lecture that will be given by John F. Fulton, M.D., Sterling Professor of History of Medicine at Yale University. His talk will be "Louis H. Bauer and the Rise of Aviation Medicine." This lecture will be the opening event of the meeting and will be followed for the next three days by the finest array of professional papers dealing with aviation medicine that has ever been brought together on one program.

A special session on Space Medicine will be held at 2:00 p.m. on 21 March. A showing of the latest films will deal with aviation medicine and other aviation problems each morning and afternoon in an especially appointed movie room. The annual business luncheon will be held on Tuesday noon, 22 March, and the annual "Honors Night" Reception and Dinner



will climax the meeting on Wednesday night, 23 March. The Honorable Stuart Symington, United States Senator from Missouri, will be the guest of honor and principal speaker at the dinner.

The Fellows' Group will make their selection of new members at their annual reception and dinner on Monday night, 21 March.

The Wives' Wing has scheduled a full three days for their members and lady guests. There will be a sponsored welcoming tea and fashion show at 3:00 p.m., Monday, 21 March, in the Hotel Statler. The Wing's annual luncheon and business meeting will also be sponsored and will be held in the South American Room of the Hotel Statler at 12:30 p.m., Tuesday, 22 March. On Wednesday, there will be an Embassy Tour that will take the ladies into a number of the finest and most exotic embassies in Washington.

No one interested in aviation medicine can afford to miss this meeting. Incidentally, this is the last time the meeting will be held in Washington, D.C., for several years to come.

Of interest to U.S. Naval flight surgeons will be the below listed professional papers to be read by U.S. Navy representatives during the scientific sessions of this meeting:

Monday, 21 March, 2:40 p.m.

"The Biological Significance of the Natural Background of Ionizing Radiation at Sea Level and at Extreme Altitude" by Hermann J. Schaefer, Ph. D., U.S. Naval School of Aviation Medicine, Pensacola, Fla.

Tuesday, 22 March, 9:00 a.m.

"The Design and Evaluation of Aviation Protective Helmets" by Edward M. Wurzel, CDR (MC) USN, U.S. Navy Aeronautical Medical Equipment Laboratory, Philadelphia, Pa.

Tuesday, 22 March, 9:20 a.m.

"Escape from Vertical Take-Off Type Aircraft" by Roland A. Bosee, CDR (MSC) USN, and W.C. Buhler, B.S., U.S. Naval Parachute Unit, El Centro, Calif.

Tuesday, 22 March, 11:40 a.m.

"Aircraft Accidents with Happy Landings" by Richard B. Phillips, CAPT (MC) USN, U.S. Naval Medical School, Bethesda, Md.

Tuesday, 22 March, 3:00 p.m.

"The Problem of High Intensity Noise at a Jet Air Base and Some Suggested Solutions" by Kenneth S. Scott, CDR (MC) USN, U.S. Naval Air Test Center, Patuxent River, Md.

Wednesday, 23 March, 9:20 a.m.

"An Analysis of Methods of G-Protection" by David H. Lewis, LT (MC) USNR, Aviation Medical Acceleration Laboratory, U.S. Naval Air Development Center, Johnsville, Pa.

Wednesday, 23 March, 9:40 a.m.

"Aviator's Oxygen Breathing Devices; Transition to Variable Integrated Systems" by Aaron Bloom, B.S., U.S. Navy Aeronautical Medical Equipment Laboratory, Philadelphia, Pa.

Wednesday, 23 March, 10:00 a.m.

"Oxygen Want-Warning Systems for Military Aircraft" by Edward L. Michel, M.S., U.S. Navy Aeronautical Medical Equipment Laboratory, Philadelphia, Pa.

Wednesday, 23 March, 12:00 noon

"Current Developments in Improving Informational Presentations for the Navy Pilot" by Fred R. Brown, M.S., U.S. Navy Aeronautical Medical Equipment Laboratory, Philadelphia, Pa.

Wednesday, 23 March, 2:20 p.m.

"Simplifying the Pilot's Task Through Display Quickening" by Franklin V. Taylor, Ph.D., and Henry P. Birmingham, A.B., Naval Research Laboratory, Washington, D. C.

Wednesday, 23 March, 2:40 p.m.

"A New Look for Aircraft Instrumentation" by George W. Hoover, LCDR USN, Office of Naval Research, Washington, D. C.

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Attention!! West Coast Flight Surgeons!

All those flight surgeons on or near the West Coast will be able to "book" roundtrip air transportation to and from the 26th annual meeting of the Aero Medical Association to be held in Washington, D. C., 21, 22, and 23 March, 1955.

A second section of the eastbound MATS Flight D-73 will leave the Naval Air Station, Moffett Field, Calif., Sunday, 20 March, and will stop at Travis Air Force Base, Fairchild, Calif., for a passenger stop before flying nonstop to Andrews Air Force Base, Washington, D. C. A westbound MATS flight will leave MATS Operations, Andrews Air Force Base, Washington, D. C., Thursday, 24 March, for a nonstop flight to Travis Air Force Base, and thence to the Naval Air Station, Moffett Field.

All flight surgeons of the West Coast area are urged to utilize this means of transportation in attending the 1955 Aero Medical Association meeting. Please contact the MATS traffic representative of either the Naval Air Station, Moffett Field, or Travis Air Force Base as early as possible, making certain the representatives are informed that the purpose of your trip is to attend the Aero Medical Association meeting. The MATS passenger service at either field will inform you of take-off times and other pertinent details. The MATS traffic representatives at Andrews Air Force Base will handle all reservations for the return flight to the West Coast. If possible, these return reservations should be made at the time of arrival from the West Coast. Y'all come now!



Defects Noted on SF-88's and SF-89's Submitted to BuMed  
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Excess copies .....	102
Lack of copies .....	11
Copies not legible .....	2
Original and copies dissimilar .....	6
Item 2. No designator here or elsewhere .....	1
Item 6. Date of examination omitted .....	2
Item 11. Organizational unit omitted .....	3
Item 12. Birth date omitted or in error .....	9
Item 15. Examining facility omitted .....	6
Item 17. Aviators flight time omitted .....	58
Item 45. Urinalysis omitted .....	3
Item 46. Chest x-ray omitted .....	2
Item 51. Obvious errors in height .....	3
Item 52. Weight omitted or in error .....	1
Item 57. C. E. R. omitted .....	2
Item 57. Blood pressure omitted .....	2
Item 58. Pulse omitted .....	2
Item 59. Distant vision omitted .....	5
Item 60. Refraction not properly recorded .....	4
Item 60. Refraction omitted on NavCad applicants .....	4
Item 62. Omitted in full .....	9
Item 62. Right or left heterophoria omitted .....	1
Item 62. P. D. at 13" omitted .....	30
Item 62. P. D. at 20' omitted .....	20
Item 62. P. C. and P. D. omitted .....	9
Item 63. Accommodation omitted .....	10
Item 64. Color vision omitted .....	1
Item 65. Depth perception omitted .....	9
Item 66. Field of vision omitted .....	56
Item 69. Intraocular tension omitted .....	58
Item 70. Hearing omitted .....	2
Item 71. Audiometer omitted on NavCad applicants .....	7
Item 73. No reason given for hospitalization .....	4
Item 73. Not leaving space for BuMed endorsement .....	12
Item 73. Not enough detail on physical defects .....	1
Item 77. Failure to state aviator's service group .....	12
Items 79 through 82. No signatures .....	2
Failure to evaluate on SF-89 .....	3
Failure to complete Item 21 on SF-89 .....	7

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Aviation Medicine Practice - NavPers 10839

A new revised edition of the Aviation Medicine Practice, NavPers 10839, will be off the presses by the time this News Letter reaches its readers. This 1955 edition is a complete revision of the 1949 model and will contain 282 pages of script and illustrations. It is considered to be the latest and most complete general text on naval aviation medicine and will be utilized as the reference text for the U. S. Navy Medical Department's correspondence course, Aviation Medicine Practice, Q-20.

All flight surgeons interested in receiving a copy of this edition may do so by addressing a letter request to the Chief of the Bureau of Medicine and Surgery, Aviation Medicine Division (Code 536), Navy Department, Washington 25, D. C.

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